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(54) Additives for improving the  
octane rating of liquid motor  
fuels

(57) An additive for improving the octane rating of a liquid motor fuel which is suitable for use in ordinary road engines or race engines in normally aspirated form, comprises an aniline base to which is added toluene preferably in a concentration of between 10 and 25 percent by weight, preferably 15 percent. An additive for use with supercharged engines comprises an aniline base to which are added toluene in a proportion of between 1 and 25 percent by weight and triptane, xylene or a mixture thereof in a proportion of between 1 and 25 percent by weight, preferably 10 percent.

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## SPECIFICATION

### Additives for improving the octane rating of liquid motor fuels

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This invention relates to additives for improving the octane rating of liquid motor fuels.

According to a first aspect of the invention, such an additive comprises an aniline base having added thereto toluene in a proportion of between 10 and 25 percent by weight.

The use of aniline as an additive for improving the octane rating of liquid motor fuels is well known, but it can be somewhat disadvantageous since it slows down the rate of combustion of the fuel. The addition of toluene in the above-stated proportion counteracts this effect and increases the speed of the combustion flame front. It has been found that the addition of toluene in a proportion of 15 percent or substantially so produces the optimum effect.

The above additive is particularly suited for ordinary road engines or race engines in normally aspirated form, and if added in concentrations of up to 5 percent to a liquid motor fuel having a normal octane rating of 96 to 97, an increase in the octane rating of 3 to 5 typically results. Higher concentrations can successfully be used if the base fuel has a very low octane rating.

According to a second aspect of the invention, an additive for improving the octane rating of a liquid motor fuel comprises an aniline base having added thereto toluene in a proportion of between 1 and 25 percent by weight and triptane, xylene or a mixture thereof in a proportion of between 1 and 25 percent by weight. Preferably, the triptane, xylene or mixture thereof is employed in a proportion of 10 percent by weight or substantially so.

The latter additive is particularly suited for turbocharged or other supercharged engines, and enables the fuel to maintain a good octane rating at the elevated temperatures which are normally associated with supercharged engines. As with the first-mentioned additive, concentrations of up to 5 percent are commonly used, but much higher concentrations than this can be successfully employed.

### CLAIMS

1. An additive for improving the octane rating of liquid motor fuels, comprising an aniline base to which toluene has been added.

2. An additive as claimed in claim 1, wherein the toluene is added in a proportion of between 10 and 25 percent by weight.

3. An additive as claimed in claim 2, wherein the toluene is added in a proportion of substantially 15 percent by weight.

4. An additive as claimed in claim 1, wherein the toluene is added in a proportion of between 1 and 25 percent by weight, and there is also added to the aniline base triptane, xylene or a mixture thereof in a proportion of between 1 and 25 percent by weight.

5. An additive as claimed in claim 4, wherein the triptane, xylene or a mixture thereof is added in a proportion of substantially 10 percent by weight.

6. Additives for improving the octane rating of liquid motor fuels, substantially as hereinbefore

described.

7. A liquid motor fuel having a normal octane rating of 96 to 97, to which an additive as claimed in claim 2 or 3 has been added in a concentration of up to five percent.

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